

Claims

1. A program recommendation apparatus comprising:
  - a program information storage unit operable to store therein program information of television programs;
  - a category dictionary containing words included in the program information as keywords, where each of the keywords is stored in association with contribution factors assigned with respect to categories respectively, the programs being classified into the categories;
  - an evaluation value calculation unit operable to, for each of the programs, a) search program information of the program for the keywords contained in the category dictionary, b) for any found keywords, obtain category summations of contribution factors of the found keywords for each of the categories, and c) calculate category evaluation values of the program according to the category summations of the contribution factors;
  - a user-preference-factor storage unit operable to store therein user preference factors, each user preference factor indicating a user's preference toward a corresponding category and being shown in numerical form corresponding to the category evaluation values; and
  - a recommending unit operable to recommend one or more programs to the user according to a degree of similarity between the category evaluation values of the programs and the user preference factors.

2. The program recommendation apparatus of Claim 1, further

comprising:

a history storing unit operable to store therein a history of programs the user has watched or recorded in the past;

5       a category evaluation value storage unit operable to store therein the category evaluation values of the programs calculated by the evaluation value calculation unit; and

10      a user-preference-factor analysis unit operable to, for the programs included in the history, a) obtain corresponding category evaluation values from the category evaluation value storage unit, b) obtain category summations of the corresponding category evaluation values, c) set the user preference factors as the category summations of the corresponding category evaluation values respectively, in relation to a summation of the corresponding category evaluation values across the 15 categories, and d) store the user preference factors to the user-preference-factor storage unit.

3.       The program recommendation apparatus of Claim 2, wherein the recommending unit comprises:

20      a recommendation factor calculation subunit operable to calculate a recommendation factor for a corresponding one of the programs, by a) calculating, with respect to each of the categories, a difference of a corresponding category evaluation value and a corresponding user 25 preference factor, b) summing thus calculated differences across the categories, c) subtracting the summation of the differences from the total number of the categories, and d) setting a value obtained by the subtraction as the

recommendation factor; and

a recommended program determining subunit operable to determine, as the recommended programs, programs having high recommendation factors calculated in the recommendation factor calculation subunit.

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4. The program recommendation apparatus of Claim 2, further comprising:

10 a storage unit operable to store identification information for visually identifying a corresponding category;

a categorizing unit operable to categorize each program in the program information storage unit into a category with respect to which the program has the highest category evaluation value; and

15 a program-table display control unit operable to display a program table, in which each program represents a category to which the program is categorized, using the identification information stored in the storage unit.

20 5. The program recommendation apparatus of Claim 4, further comprising:

a program specification reception unit operable to receive specification of a program from the displayed program table, wherein

25 the program-table display control unit displays a recommendation factor of the specified program together with the program table.

6. The program recommendation apparatus of Claim 2, further comprising:

    a user-preference-factor display control unit operable to perform control so that each of the user preference factors stored  
5 in the user-preference-factor storage unit is displayed to represent a corresponding category in a visually distinguishable manner from the other categories;

    a modification instruction reception unit operable to receive, from the user, an instruction to modify a user preference  
10 factor of a category currently on display; and

    a modification unit operable to modify contents stored in the user-preference-factor storage unit, in accordance with the received instruction.

15 7. The program recommendation apparatus of Claim 2, further comprising:

    a keyword adding unit operable, when the summation of the category evaluation values for all the categories is 0 for a program included in the history stored in the history storage unit, to  
20 perform keyword addition by extracting words from the program's program information;

    a categorizing unit operable to categorize each program, which is broadcast during a predetermined period, into a category with respect to which the program has the highest category  
25 evaluation value; and

    a contribution factor assigning unit operable to assign, for each keyword added by the keyword adding unit, contribution factors for categories respectively, where a contribution factor

for a category is calculated as a value having: as a denominator,  
the number of times the added keyword appears in program  
information of all the programs during the predetermined period;  
and as a numerator, the number of times the added keyword appears  
5 in program information of programs of the category.

8. A program recommendation method used in a program  
recommendation apparatus that has a category dictionary  
containing words included in program information of television  
10 programs as keywords, where each of the keywords is stored in  
association with contribution factors assigned with respect to  
categories respectively, the programs being classified into the  
categories, the program recommendation method comprising:

15 a program information recording step of recording the  
program information of the programs;

an evaluation value calculation step of, for each of the  
programs, a) searching program information of the program for  
the keywords contained in the category dictionary, b) for any  
found keywords, obtaining category summations of contribution  
20 factors of the found keywords for each of the categories, and  
c) calculating category evaluation values of the program according  
to the category summations of the contribution factors;

25 a user-preference-factor recording step of recording user  
preference factors, each user preference factor indicating a  
user's preference toward a corresponding category and being shown  
in numerical form corresponding to the category evaluation values;  
and

a recommending step of recommending one or more programs

to the user according to a degree of similarity between the category evaluation values of the programs and the user preference factors.

9. A program for making a program recommendation apparatus  
5 that has a category dictionary containing words included in program information of television programs as keywords, where each of the keywords is stored in association with contribution factors assigned with respect to categories respectively, the programs being classified into the categories, to perform:

10 a program information recording step of recording the program information of the programs;

an evaluation value calculation step of, for each of the programs, a) searching program information of the program for the keywords contained in the category dictionary, b) for any found keywords, obtaining category summations of contribution factors of the found keywords for each of the categories, and c) calculating category evaluation values of the program according to the category summations of the contribution factors;

a user-preference-factor recording step of recording user preference factors, each user preference factor indicating a user's preference toward a corresponding category and being shown in numerical form corresponding to the category evaluation values; and

a recommending step of recommending one or more programs  
25 to the user according to a degree of similarity between the category evaluation values of the programs and the user preference factors.